

REMARKS

Claims 1-35 are in the case.

Claims 1-14, 16, 20-35 are withdrawn.

Claims 15, 17-19 and 36-37 are under consideration here.

Claim 6 was canceled previously and claims 18 and 35 are canceled by this amendment.

Claims 15, 17 and 37 have been amended to more clearly describe applicant's invention.

Claim 36 is allowed.

No new matter has been added.

Advisory Action

The amendment filed January 2, 2007 has not been entered because amendments made to the claims would raise new issues that would require further consideration and /or search. Specifically, the recitation of the enzyme activity followed by the phrase "as set forth in SEQ ID NO:x", as recited in claim 37, does not make it clear that the recited sequences have the specified activity.

Applicants have amended Claim 37 for clarity and now recite that the enzymes have the amino acid sequences as set forth in SEQ ID NO:x. Applicants submit that the prior filed amendment clearly linked the enzyme activity and the SEQ ID NO:. If the present language is also deemed unclear, Applicants would appreciate the examiner's suggestion as to how clarity might be achieved.

Election

Applicants acknowledge the examiner's comments with respect to the Election of Claims and take notice that the Election is made final. Claims 15, 17-19 and 36-37 are under consideration here. All other Claims are withdrawn

Claim Objections

Claim 35 is objected to as depending on a non-existent claim. Claim 35 is canceled by this amendment, making this objection moot.

Claims 15 and 17-19 are objected to as they depend from canceled claim 6. The dependency of these claims has been changed from claim 6 to claim 37. In view of this amendment applicants submit this objection is moot.

Claim Rejections – 35 USC § 112

Claims 15, 17-19 and 37 are rejected under 35 USC § 112 as lacking enablement. The examiner finds that Claim 37 is enabled by the specification for an isolated nucleic acid as set forth in SEQ ID NO:20 encoding all of the following enzymes:

- a) geranylgeranyl pyrophosphate synthetase as set forth in SEQ ID NO:2;
- b) zeaxanthin glucosyl transferase as set forth in SEQ ID NO:4;
- c) lycopene cyclase as set forth in SEQ ID NO:6;
- d) phytoene desaturase as set forth in SEQ ID NO:8;
- e) phytoene synthase as set forth in SEQ ID NO:10;
- f) β -carotene hydroxylase as set forth in SEQ ID NO:12; and
- g) isopentenyl diphosphate isomerase as set forth in SEQ ID NO:14,

however is not enabled for a broader scope.

Claim 37 has been amended to recite the limitations of the specific amino acid sequences of the enzymes listed in parts (a) – (g).

The examiner argues that the skilled person would require undue experimentation to make and use the invention as claimed, as applicants have provided no guidance as to which nucleotides could be varied to encode the recited enzymes nor have placed any structure/function limitations on the claimed nucleic acids.

Applicants submit that by limiting the collection of encoded enzymes to those having the specific recited SEQ ID NO:’s that a structure/function limitation has now been added to the claim and that the skilled person would not require undue experimentation to practice the invention as now claimed.

The examiner further notes that, although claim 18 has been amended to remove the limitation of green plants that the claims from which it depends are not so limited. Claim 18 has been canceled and the limitations of claim 18 are now found in amended claim 17.

In view of these amendments applicants submit that the claims comply with all the requirements of 35 USC § 112 and respectfully request withdrawal of these rejections.

Should there be any fee due in connection with the filing of this Amendment please charge such fee to Deposit Account No. 04-1928 (E. I. du Pont de Nemours and Company).

Respectfully submitted,

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